

REMARKS

In the July 14, 2005 Final Office Action, the Examiner rejected claims 1-10 and 20-21 as obvious over Lindenmeir (U.S. Patent No. 6,169,888) in view of Ohe (U.S. Patent No. 4,742,567). The Examiner allowed claims 11-19.

The present invention is directed toward an antenna diversity receiver which has multiple antennas and a switching circuit to select the antenna to minimize multi-path distortion. A plurality of FM antennas is connected to a controllable switching circuit which sequentially switches to one of the FM antennas. The selected antenna is connected to a receiver via an antenna cable. The receiver receives the signal from the selected FM antenna and has a multipath detector coupled to a pulse generator. The pulse generator generates a pulse signal at the detection of multipath interference from the antenna. The pulse signal is converted into a pulse signal pair having a first signal pulse followed by a second signal pulse having a signal polarity opposite to the signal polarity of the first signal pulse. The pulse signal pair has no DC signal energy to avoid interference with the antenna signals. The pulse signal pair is then transmitted via the antenna cable to the switching circuit which detects the occurrence of the pulse signal pair. On determining the occurrence of the pulse signal pair, the switching circuit switches antennas.

In contrast, Lindenmeir is directed toward a multiple switching device having a simple indicating signal 10 which is binary in configuration to indicate interference. (Col. 3, lns. 45-52). Lindenmeir also indicates that the indicating signal may be transformed into a single indicating pulse. (Col. 3, lns. 50-52). Thus, Lindenmeir uses a single pulse over the antenna cable to trigger the selection of a different antenna.

The Examiner has only cited Ohe for disclosing a pulse signal pair based on the output of a differentiator. As the Examiner has noted, a differentiated pulse having a positive and negative component is shown in the fourth line of Fig. 7 of Ohe. However, the actual switch of the antenna is only activated by the negative component which causes “a multi-stable monostable vibrator 82 which is driven by a negative voltage” to produce a signal 106. (Col. 6, lns. 51-54). The signal 106 resets a further pulse counter which generates a DC voltage signal 110 which is held high for a certain time period to switch the antennas for that specified period of time. (Col. 6, lns. 55-61). Unlike the present invention, the signal cannot be sent over an antenna line because it would interfere with the received signal. Moreover, there is no suggestion nor teaching to send an intermediate differentiated signal over the antenna line as in the present invention. Finally, Ohe only discloses detecting the negative component of the pulse pair only to trigger an activation signal.

Applicant respectfully disagrees with the Examiner’s position that Ohe can be properly combined with Lindenmeir. First, there is no suggestion nor motivation to combine the two references. The method of Ohe assumes a separate control line using a high voltage level for a specified time to switch to a second antenna. One of ordinary skill in the art would not combine the Ohe method to solve the problem of sending a signal on the antenna cable as well as making the switch to the new antenna for an unspecified duration as outlined in Lindenmeir. Second, the combination would still result in DC signal energy as Ohe indicates that the activating differentiated pulse is a “negative voltage” and thus not anticipate the requirement in claim 1 that the pulse have no DC signal energy.

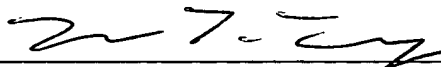
However, in order to further distinguish the present invention from Lindenmeir and Ohe, Applicant has amended claim 1 to require that the pulse signal pair as a whole is detected by the

switching controller. Even if Lindenmeir used the dual pulses which are disclosed by Ohe, only the negative pulse signal of Ohe would have the negative voltage necessary to trigger the monostable vibrator. Amended claim 1 requires that the switching controller detect the occurrence of a pulse pair. The combination of Lindenmeir and Ohe does not detect a pulse pair, it only detects a negative pulse. Amended claim 1 is thus allowable over Lindenmeir and Ohe either separately or in combination. Claims 2-10 and 20-21 depend from claim 1 and are similarly allowable.

For the foregoing reasons, Applicant respectfully submits that the pending claims (1-21) are in condition for allowance and that the Examiner issue a notice of allowance in the above-identified application. The Office is authorized to charge all fees, if any, associated with this Amendment to Deposit Account No. 13-0019.

Respectfully submitted,

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